

Claims

1. Receiver for an OTDM pulse train in which the pulses have alternating polarizations, wherein:
 - a) a polarization insensitive optical switch for isolating optical pulses within the pulse train, and
 - b) a polarization selective element for separating from the isolated pulses at least one component that has a single polarization.
2. The receiver of claim 1, wherein a polarization controller for altering the polarization of the isolated pulses, the polarization controller being disposed between the optical switch and the polarization selective element.
3. The receiver of claim 2, wherein the polarization selective element is a polarization beam splitter having a first output port and a second output port, wherein the first output port emits a first component of the isolated pulses having a first polarization, and the second output port emits a second component of the isolated pulses having a second polarization that is distinct from the first polarization.
4. The receiver of claim 3, wherein the first output port is connected to a pulse detector for extracting digital information, and the second output port is connected to a power detector that forms, together with the polarization controller and the polarization beam splitter, a control feedback loop for controlling the polarization controller.

5. The receiver of claim 4, wherein a clock recovery module that is connected to the pulse detector for extracting a clock signal to be fed to the optical switch.
6. Method for receiving an OTDM pulse train in which the pulses have alternating polarizations, the method comprising the steps of:
 - a) isolating optical pulses from the pulse train by a polarization insensitive optical switch, and
 - b) separating from the isolated pulses at least one component that has a single polarization.
7. The method of claim 6, wherein the polarizations of the isolated pulses are altered by a polarization controller before the isolated pulses are separated into components having a single polarization.
8. The method of claim 6, wherein a first and a second component having different polarizations are separated from the isolated pulses, wherein the first component is used for extracting digital information and the second component is used for controlling the polarization controller in a control feedback loop.
9. The method of claim 8, wherein the polarization controller is controlled by the control feedback loop such that the optical power of the second component is minimal.